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## SECTION 18

STATE WATER PLAN - JORDAN RIVER BASIN

# INDUSTRIAL WATER

**Although the use of water by industry is small, it serves many uses and carries a high value. Water is used to generate power, as a solvent, for temperature control, for cleaning, to transport waste or other materials and for aesthetics.**

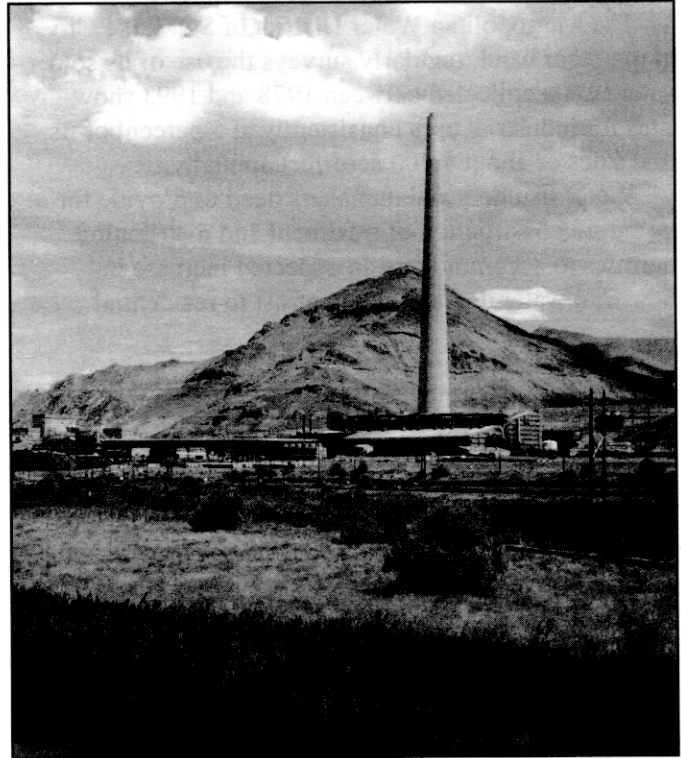
### 18.1 Introduction

This section discusses the present and future uses of water for industrial purposes in the Jordan River Basin. For this report, industrial water use is defined as water used in mining and manufacturing operations including the production of steel, chemicals, paper or any other product. It includes processing, washing, and cooling operations as well as employee use. Also included, to the extent they can be identified, are such activities as gravel washing and ready-mix concrete.

No single agency or entity regulates the development or use of industrial water, although its use must conform to existing state laws for water rights, pollution control and other regulations. The single biggest obstacle in identifying the county's total industrial water uses is that many industrial water users view their water-use data as classified information.

### 18.2 Background

One of the major industrial uses of water is for mining operations at the Kennecott Utah Copper Bingham Canyon mine. Because it is part of a patented mining process, the actual amount of water used in Kennecott's mining process is considered confidential information. This is typical of many industrial water uses. When the amount of water used is an intricate part of a patented process, then the water right is treated in a classified manner. Although the State Engineer's Office has a record of the water right, including the quantity of water used, these rights are treated with confidentiality. As a result, it is difficult to develop a detailed inventory of industrial water use.



*Kennecott Utah Copper Corp.*

### 18.3 Current and Projected Industrial Water Use

The State Engineer's Office has surveyed and published statewide industrial water-use data for several years. Although the State Engineer's Office will not divulge the quantity of water used by individual industrial water users, the office has reported the collective 1995 total industrial water use in the Jordan River Basin from privately held water rights as 29,700 acre-feet. The 1995 data on privately held industrial water rights are shown in Table 18-1. The majority of the privately developed industrial water, (26,500 acre-feet) comes from wells, with only

3,000 acre-feet coming from surface water, and 200 acre-feet from springs.

In addition to the privately held water rights used for industrial purposes, many industries use water purchased from wholesale suppliers, primarily the Lake County Water Conservancy District and Metropolitan Water District of Salt Lake City. The Lake County Water Conservancy District makes no effort to delineate how much of its sold water goes to industrial uses, as opposed to commercial or residential uses. The best estimate of district officials is that 5 to 10 percent of their total water sales are used for industrial purposes.

The Metropolitan Water District of Salt Lake City, on the other hand, regularly surveys the use of its sold water. Data collected between 1978 and 1993 show sales for industrial uses consistently at 5 percent of its total sales or about 4,400 acre-feet annually.

Water planners and managers need to provide for the future construction of treatment and distribution facilities to accommodate an expected increase in industrial water demand. In contrast to residential

and commercial water uses which grow somewhat uniformly with population, future industrial use is difficult to predict. Future industrial uses could decline as industry types change or industries employ water conservation programs. In an effort to predict future water demands, it has been assumed industrial water use will grow with the increasing population. Without an accurate prediction of the new kinds of industries which will occur, it will not be possible to make an accurate prediction of industrial water growth.

Utah Power has two hydroelectric power plants in Big Cottonwood Canyon. The first is located approximately two miles up the canyon. The second is located near the mouth of the canyon. Water for both plants is diverted from a point near Storm Mountain picnic area approximately half-a-mile upstream from the first plant. Murray City has a hydroelectric power plant located near the mouth of Little Cottonwood Canyon, and the plant diverts water from the stream through a 30-inch penstock about one mile upstream (See Table 18-2). ■

Table 18-1 PRESENT INDUSTRIAL WATER USE	
	Acre-feet/year
Privately held water rights <sup>a</sup>	3,000
Surface water	200
Springs	26,500
Wells	15,400
Public Water Supply - Culinary Systems <sup>b</sup>	10,000
Imported from Tooele County by Kennecott Utah Copper	55,100
<b>TOTAL</b>	
a. Water use data provided by State Engineer's Office.	
b. Wasatch Front Water Demand/Supply Model, February 1997.	
Note: This table does not include water used to generate hydropower.	

Table 18-2 HYDROELECTRIC POWER PLANTS			
Name	River	Capacity (kw) <sup>(a)</sup>	Owner
Stairs Power Plant #1	Big Cottonwood Creek	500	Utah Power
Stairs Power Plant #2	Big Cottonwood Creek	1000	Utah Power
Murray City Power Plant	Little Cottonwood Creek	1000	Murray City
(a) Department of Natural Resources, Energy office 1980, <i>A survey of small hydroelectric potential at existing sites in Utah</i> .			